

Integrated Pest Management (IPM) in Health Care Facilities Project

Project Newsletter: 2015

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Welcome to the Summer edition of the *IPM in Health Care Facilities newsletter*, published by the **IPM in Health Care Facilities Project**—a partnership of the Maryland Pesticide Network and Beyond Pesticides in collaboration with Maryland Hospitals for a Healthy Environment (MD H2E). The Project enables and facilitates transition to safe pest management practices at Maryland health care facilities. This newsletter is part of the Project’s outreach effort to share information with Maryland health care facilities interested in effective pest management that protects patients, residents, staff and visitors from unnecessary exposure to pesticides.

Facilities participating in the Project’s Partnership Program agree that IPM prioritizes pest prevention and non-chemical interventions as key components to **greening** their facilities. Under an IPM approach, only least-toxic pesticides are used as a last resort for pest management. This approach is especially important for patient and long-term care populations, which are especially vulnerable to chemical-intensive pest control methods that can cause or exacerbate the very diseases and conditions that they are being treated.

Feel free to contact us to learn more about how you can improve patient, staff and visitor safety by reducing pest complaints and toxic chemicals in your facility—with no increase in cost.

Organic Land Care

Background:

A growing body of scientific evidence links toxic pesticide use to serious health issues, especially for vulnerable populations, even at low levels. Hospital patients who have compromised immune and nervous systems, the elderly, infants and children, and those especially sensitized to pesticides are particularly vulnerable to toxic chemical exposure. Patients taking certain medications may also have heightened reactions to pesticides. From an environmental perspective, the use of pesticides and fertilizers are a major contributor to pollinator declines, including local Maryland honey bees, and they negatively impact the health of our waterways.

That is why many communities, municipalities, school districts, local parks, home owners, and, especially, the health care industry are transitioning from chemical-intensive to organic land care, which relies on proven safe, effective, and affordable ways to maintain attractive lawns and landscaping without the use of toxic pesticides. People, governments, agencies, and industries that have made the switch are following a systems approach focused on preventive strategies for weed and insect management, proving that it is possible to transition to natural lawn care that does not rely on harmful pesticides.



Organic Land Care, *continued...*

Chemical-Intensive Land Care

Studies show that hazardous lawn chemicals do not stay on treated lawns. They are tracked indoors, and they drift into hospitals, homes, and other buildings where they contaminate indoor air and surfaces, exposing people at levels ten times higher than pre-application levels. Of the 30 commonly used lawn pesticides, 17 are linked to cancer, 11 are linked to birth defects, 19 to reproductive effects, 24 to liver or kidney damage, 14 to neurotoxicity, and 18 to disruption of the endocrine (hormonal) system.

Synthetic fertilizers and chemical pesticides restrict water and air movement in the soil while high nitrogen fertilizers can disrupt the nutrient balance, accelerate turf growth, and increase the need for mowing. Pesticides harm the microorganisms, beneficial insects and earthworms that are essential to maintaining a healthy soil and turf.



Organic Land Care

Natural organic land care is a systems approach to land care. The systems approach is based on three basic concepts: (1) natural, organic products where use is governed by soil testing, (2) an understanding that the soil biomass plays a critical role in soil fertility and turf grass health, and (3) specific and sound cultural practices.



The goal of a natural organic turf management program is to create turf that is both aesthetically pleasing and meets site objectives. At the same time, this turf will provide a healthy surface free from toxic chemicals. From an environmental perspective, the approach is designed to utilize materials and adopt cultural practices that will avoid any runoff or leaching of nutrients and control products into the Chesapeake Bay watershed and water table.

Organic turf management is a "feed-the-soil" approach that centers on natural, organic fertilization, microbial inoculants, compost teas, microbial food sources, and topdressing as needed with high quality finished compost. It is a program that supports the natural processes that nature has already in put in motion. These inputs, along with very specific cultural practices, which include mowing, aeration, irrigation, and overseeding are the basis of the program.

Organic Land Care *continued...*

Transitioning to Organic

Fall is the best time to start transitioning to a natural organic lawn. The key to a healthy lawn is healthy soil and good mowing, watering and fertilizing practices. Weeds thrive in soil that is compacted, poorly fertilized, and not pH balanced; and in lawns that are improperly watered, seeded, and mowed.

If the lawn is hard, compacted, and full of weeds, aerate to help air, water and fertilizer enter the soil below the surface.

Build healthy soil containing high organic content and biological life. Spreading compost over grass will increase water retention, increase organic matter, and “feed the soil.” A healthy soil feeds the grass. If a fertilizer is needed, choose organic and use it sparingly.



When selecting a land care vendor or recontracting with an existing vendor, we encourage you to contract for a turf and landscape program that builds soil health instead of relying on synthetic fertilizers, herbicides, fungicides, and insecticides to treat problems. Healthy soil can eliminate the use of pesticides.

Healthy soil supports the development of healthy grass that is naturally resistant to weeds and pests. Once the lawn is healthy, natural organisms will help it to remain aerated. Adding new grass seed over an existing lawn will create a thick lawn which prevents weeds from taking root.

In a healthy, fertile and well maintained lawn, diseases and pest problems are rare. Once established, an organic lawn uses fewer materials, such as water and fertilizers, and requires less labor for mowing and maintenance. More importantly, the lawn will be safe for the patients, residents, staff, and visitors at a health care facility.

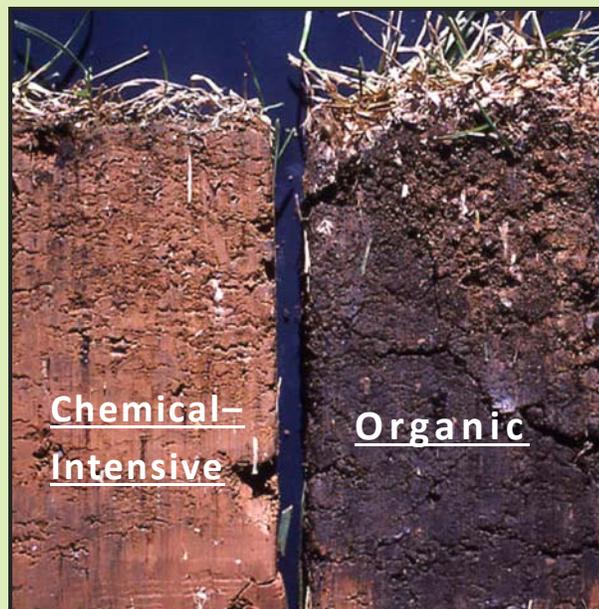


A health care facility must be a safe haven for young families, children, the elderly, and people with weakened immune systems. Now is the time to make the transition and eliminate from your grounds unnecessary toxic chemicals that put people and the environment at risk.

Organic Land Care *continued...*

8 Steps to a Toxic-Free Lawn

1. **Develop healthy soil.** Dig a 10" deep smooth narrow hole to examine the soil. The lawn should have between 5"-6" of topsoil; the darkest soil layer. If needed, add organic matter such as compost.
2. **Plant well-adapted, pest-resistant grass varieties.** Learn which grasses are most suitable to your climate. A mix of two or more appropriate grass varieties is preferable. Overseeding, or providing additional seeding, of established lawns may reduce weed problems.
3. **Aerate the lawn twice a year.** Soil compaction is one of the largest causes of weed problems. Aeration, or removing small cores or "plugs" of soil, allows air, water, and nutrients to reach the roots of the grass.
4. **De-thatch.** Thatch is a dense layer of grass stems and roots on the surface of the soil. When thatch layers become $\frac{1}{2}$ " or more, the roots will grow up within the thatch instead of down into the soil, making grass susceptible to insects, disease, and weather stress. Thatch is reduced by aeration, organic matter topdressing, or by vertical mowing or power raking.



5. **Maintain proper pH.** Test your soil and adjust the pH accordingly. Low pH means high acid content - add lime to raise the pH. High pH means high alkaline - add sulphur to lower the pH. Watch for hints of pH imbalance, such as a dandelion infestation. Dandelions prefer soil with a pH of 7.5, while grass prefers a pH of 6.7 to 7.0.
6. **Fertilize.** Use a slow release natural, organic fertilizer once a year, usually in the fall, to increase nutrient uptake and reduce nutrient runoff and leaching. Avoid conventional synthetic nitrogen-rich fertilizers that feed only the plant not the soil. Learn to read signals. For example, if clover is taking over the lawn, the soil is lacking nitrogen since clover gets nitrogen from the air and grass gets nitrogen from the soil.
7. **Water properly.** Over or under watering can induce pest outbreaks. Enough water should be applied each time to wet the soil to the depth of the grass root zone. The soil should be allowed to become nearly dry between waterings. Avoid frequent, short waterings, which promote shallow root systems and reduce stress resistance. Natural, organic fertilizers can increase the water-holding capacity of the soil.
8. **Mow correctly.** Mow with sharp blades set to 3" to minimize adverse effects and retain the lawn's competitive ability. Never cut off more than 1/3 of the grass blades in a single mowing. Rotate the mowing pattern to reduce lawn compaction. Leave a light layer of grass clippings on the grass, which can provide up to half the lawn's nitrogen re-

Organic Land Care *continued...*

Local Actions:

Annapolis State House Grounds: In December 2014, the Maryland Department of Natural Resources issued a press release announcing the successful transition of State House grounds to natural organic land care—Government Leading by Example. The Project, a collaboration between the Maryland Departments of General Services and Natural Resources and the Maryland Pesticide Education Network, has employed the systems approach to natural organic land care including organic soil amendments, overseeding, and aeration over a three year period, eliminating toxic pesticides and protecting the health of visitors, wildlife and the Chesapeake Bay.



Canton Waterfront Park: The waterfront in Canton has completed a dramatic change. The Canton Waterfront Project is a collaboration between the City of Baltimore Recreation and Parks Department, Baltimore City Sustainability Commission, and Maryland Pesticide Education Network. The pesticide-free park protects the health of the many visitors who enjoy the park throughout the year. The official groundbreaking ceremony to announce the first organic park in Baltimore City was held Saturday, August 15, 2015. The event was a success and featured educational materials and demonstrations by various participating organizations, as well as activities for kids and adults. Speakers included Ruth Berlin, executive director of Maryland Pesticide Education Network, Chip Osborne, national organic turf expert from Osborne Organics, and representatives from the City of Baltimore.



Legislative Update:

On October 7, 2015 Montgomery County, Maryland passed nationally historic legislation to protect children, pets, wildlife, and the wider environment from the hazards of unnecessary lawn and landscape pesticide use.

This landmark law (Bill 52-14), introduced by County Council Vice President George Leventhal, chair of the Health and Human Services Committee, is based on growing concerns in the community of the health risks associated with exposure to pesticides, and creates a safe space for residents in Montgomery County by prohibiting the use of non-essential land care pesticides on both public and private property.

Chemical Profile: Glyphosate

Glyphosate, the active ingredient in the herbicide 'RoundUp,' is the world's most popular weed killer. RoundUp is a systemic, broad-spectrum herbicide produced by Monsanto. It is used in food production and on lawns, gardens, parks, and children's playing fields as part of a conventional land care approach. For years, science has shown a link between glyphosate and numerous serious human health effects in humans and animals. Studies have indicated an increased cancer risk and neurotoxicity, as well as eye, skin, and respiratory irritation. Studies has also shown that it can induce morphological changes in vertebrate animals, and causes two species of amphibians to change their shape by interfering with the hormones of tadpoles. The inert ingredient POEA, formulated in Roundup products, has also been shown to kill human embryonic cells.



Due to the consistent scientific evidence showing the risks associated with glyphosate, the International Agency for Research on Cancer (IARC) concluded on March 20, 2015 that there is *sufficient evidence of carcinogenicity of Glyphosate* based on laboratory studies to classify the chemical as a Group 2A "probable" carcinogen for humans. The agency also notes that glyphosate caused DNA and chromosomal damage in human cells. Further, epidemiologic studies have found that exposure to glyphosate is significantly associated with an increased risk of non-Hodgkin's Lymphoma (NHL).

While RoundUp continues to be used at an alarming rate, this new ruling will help shed light on the dangers of conventional pest management. In natural organic land management, products like RoundUp are unnecessary.

Legislative Update, *continued...*

This ordinance follows successful lawn pesticide regulations on private and public property in the City of Takoma Park in Montgomery County, and provides equal safeguards for human health and the environment. In advance of the Takoma Park ordinance, Washington Adventist Hospital in Takoma Park voluntarily stopped the use of toxic pesticides on their grounds and now Montgomery County council members have urged the other hospitals in the County to also cease the use of unnecessary pesticides to set an example for the county.



The legislation passed with the support of County Council president Leventhal, and Councilmembers Marc Elrich, Tom Hucker, Nancy Nacarro, Hans Riemer, and Council Vice President Nancy Floreen. It was stewarded by Safe Grow Montgomery, a coalition of individual volunteers, organizations and businesses, represents the latest in a growing movement to prevent exposure to chemicals that run-off, drift, and volatilize from their application site, causing involuntary poisoning of children and pets, polluting local water bodies such as the Chesapeake Bay, and widespread declines of honey bees and other wild pollinators.